CLAIMS

What is claimed is:

1. A method of forming storage nodes in a dynamic random access memory (DRAM) on a semiconductor wafer, the semiconductor wafer comprising a substrate, a thin film layer positioned on the substrate, and a photoresist layer positioned on the thin film layer, the method comprising:

performing a first exposure process to form first exposure regions that are linear and parallel with each other on the photoresist layer;

performing a second exposure process to form second exposure regions that are interlaced with and perpendicular to each other on the photoresist layer;

performing a development process on the first exposure regions and the second exposure regions of the photoresist layer;

removing the first exposure regions and the second exposure regions of the photoresist layer to form an array photoresist layer on the thin film layer; and

using the array photoresist layer as a mask to perform an etching process to remove portions of the thin film layer not covered by the array photoresist layer so as to form an array thin film layer, the array thin film layer being used as the storage nodes in the DRAM.

2. The method of claim 1 wherein the method is used to prevent rounding corner effects, end-of-line shortening, or other optical proximity effects to patterns of the photoresist layer.

3. A method for preventing optical proximity effects in a

photolithography process, the photolithography process being used to define an array pattern of a photoresist layer on a semiconductor wafer, the semiconductor wafer comprising a substrate, the photoresist layer positioned on the substrate, the method comprising:

performing a first exposure process to form a first pattern used to define first exposure regions that are linear and parallel with each other on the photoresist layer;

performing a second exposure process to form a second pattern used to define second exposure patterns that are interlaced with and perpendicular to each other on the photoresist layer; and

performing a development process to the photoresist layer so as to define the array pattern of the photoresist layer.

4. The method of claim 3 wherein the semiconductor wafer is used for forming a dynamic random access memory (DRAM), and the array pattern of the photoresist layer is used to define positions of storage nodes in the DRAM.

5. The method of claim 3 wherein the optical proximity effects comprise rounding corner effects, or end-of-line shortening of patterns.

6. A method of forming storage nodes in a dynamic random access memory (DRAM) on a semiconductor wafer, the semiconductor wafer comprising a substrate, a thin film layer positioned on the substrate, and a photoresist layer positioned on the thin film layer, the method comprising:

performing a first exposure process to form a plurality of unexposed regions that are linear and parallel with each other on the photoresist layer;

performing a second exposure process to form a plurality of

discrete exposed regions in the unexposed regions;

performing a development process on the photoresist layer so as to form an array photoresist layer; and

using the array photoresist layer as a mask to perform an etching process to remove portions of the thin film layer not covered by the array photoresist layer so as to form an array thin film layer, the array thin film layer being used as the storage nodes in the DRAM.